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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB

SPRING 1991



DOROTHY RATHMANN, Editor



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## OFFICERS

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President:	Bessie Sinish	Treasurer:	John Saby
Vice President:	Dean Crawford	Recorder:	Elton Hansens
Secretary:	Grace Rice	Historian:	Louise Foresman

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### FROM THE PRESIDENT ..... Bessie Sinish

As your President for the year 1991, I have chosen for my theme the word **awareness**. For the past eleven years the members of this Club have made me more aware of the exciting and fascinating world in which we live. A day without one's being aware of some form of nature whether it is just breathing the air or smelling the earth, seeing the sky, or hearing a bird sing is surely missing the awareness of being.

**Awareness**, curiosity, association, learning, sharing are keys to enjoyment as we start our field trips in the Spring. Hopefully, the Winter programs have been of help in preparing you to take part and to have fun in exploring and recognizing the plants of the fields and woods.

**Awareness** implies knowing something either by perception or by means of information. Henry James said, "awareness quickens the mental demand which in turn wanders further and further for pastures."

Be **aware** of our members. Our Club is fortunate to have as members authors of both fern and flower books, botanists, a biologist, an entomologist, and members very knowledgeable about birds, geology, lichens and mosses as well as teachers of birds, flowers, shrubs and gardening, and trees. Resources too numerous to count!

The time has come for us to be aware of the Editor of SHORTIA, Dorothy Rathmann. This Spring issue of SHORTIA will be her last. Since 1983, Dorothy has been actively involved with the production of SHORTIA in the capacity of chairman of the production committee; then, except for three issues, has been Editor since 1986. If one has kept these issues, as I have, he or she has a world of information, unequalled in a Club such as ours. **Awareness**, curiosity,, learning, sharing of knowledge, and helpfulness in editing member's articles are just a few of Dorothy's attributes. Now, may she enjoy her gardening, the birds, and doing photography and being a member with little responsibility. The Club would wish me to say "thank you" and I sincerely do. From us all a **heartful thanks**.

With **awareness**, curiosity, association and learning you, our members, will be on your way to witness the arrival of Spring and the seasons to follow. Enjoy sharing our world of nature!

### FROM THE EDITOR ..... Dorothy Rathmann

For sure, I'm the one would should be thanking all of you for the privilege of working on SHORTIA for so many years -- and I do! I started with Helen Turner and learned much from her. Club members have been uniformly cooperative and helpful -- never once was I turned down. Always, I received lots of encouragement and, often, welcome advice and suggestions. 'T was a heart-warming experience.

I'm sure all of you join me in welcoming Bud Pearson as the new Editor. He brings skills and enthusiasm that bode well for the future of SHORTIA.



**OFFICERS FOR 1991 ..... Ruth Mack**

PRESIDENT, BESSIE SINISH: Bessie is not a stranger to most WCBC members. She has been an active member since 1979, when Ken retired and they moved here from Massachusetts. She has served the Club in many capacities: hike leader, Scheduling Committee member, Chairman of Honors Committee, to name a few.

Bessie has been interested in botany and hiking all her life. She also shares the hobby of photography with her husband, Ken. She exudes enthusiasm for everything she undertakes.

VICE PRESIDENT, DEAN CRAWFORD: Dean will continue to serve as our Vice President despite recent heart surgery. He is coming along fine, and it was good to see him attending recent programs.

SECRETARY, GRACE RICE: Volunteer work has been Grace's primary interest since moving to Hendersonville, but she has also been an active member of WCBC for the past 9 years.

TREASURER, JOHN SABY: John has graciously consented to act as Treasurer again. This will be his 4th (and John says, his last) term.

**COMMITTEES FOR 1991 ..... Bessie Sinish**

**ANNUAL MEETING**

Wm. & Virginia Amman, Chairmen  
Robert & Elaine Montgomery  
Fred & Beth Woodlock

**HONORS**

Dorothy Rathmann, Chairman

**FIELD TRIP SCHEDULE**

Harriet Custer, Typist

**RECORDER**

Elton Hansens, Chairman  
Anne Ulinski

**PROGRAMS**

Dean Crawford  
Bill Verduin  
Elton & Aline Hansens  
Dick Smith  
Louise Foresman  
Bud & Laverne Pearson  
Robert & Elaine Montgomery  
Ruth Hoerich  
Erica Parmi  
Bessie Sinish

**SHORTIA**

Bud Pearson, Editor  
Frances Gadd, Distribution  
Elaine Montgomery, Distribution

**NOMINATING**

Larry Kenyon, Chairman  
Bill Verduin

**YEAR-END GIFTS ..... John Saby**

The following contributions have been made:

WNC Arboretum	\$75
So. Appalachian Highlands Conservancy	75
NC Nature Conservancy	75
University Botanical Gardens, Asheville	75



## HOPE FOR THE CHESTNUT? ..... Bill Verduin

We see on our field trips the last gasps of the chestnut roots trying ever so hard to stay alive. But sooner or later the blight, a fungal disease, attacks the cambial layer and kills the sprout. The root system is not killed by the fungus but is slowly starved to death.

What are we losing? When the Pilgrims landed on Plymouth Rock, chestnut was the most common hardwood forest tree from Maine to the Gulf of Mexico. In these mountains, three of every five trees were chestnuts -- three out of five! It was also the most useful tree: the wood was suitable for many uses and the plentiful nuts were nutritious food for man and beast.

Can the species be saved? All the research so far -- and there has been a lot of it -- has not yet produced a sure and certain cure. Some efforts have shown promise, however, and researchers continue to pursue the elusive blight-free tree.

Now there is a new factor which has again raised hope. It has been found in Europe that a certain virus attacks the fungus that kills the tree. Unfortunately, the virus does not kill the fungus, but it does reduce its vitality to the extent that the tree is able to survive the fungal attack. Trees show the effect of the fungus -- swollen wound tissue -- but they do survive and therein lies hope.

Another source of hope is a chestnut named "Revival" for which a plant patent has been issued. This is a hybrid, found in Ohio, between the blight-resistant Chinese chestnut and an American chestnut tree. This specimen, found in 1953, was a healthy, mature tree in a grove of chestnuts. All others had been killed by the blight. The hybrid has, to date, shown no trace of infection and bears annual crops of large chestnuts.

The American chestnut will never again be the dominant tree in our hardwood forests but maybe, just maybe, we will again have plentiful chestnuts to roast on long winter nights.

## PINE STRAW MULCH

In the Fall 1990 issue of WILD FLOWER (the newsletter of the NC Wild Flower Preservation Soc.), Dot Wilbur suggested that gardeners cut back on their use of pine straw mulch because "Some unscrupulous pine straw wholesalers are scalping the long leaf pine forests. Those large rakes and even the pitch forks are not only removing the natural fertilizer for the pine trees, they are taking the tree's natural mulch away, thus increasing water loss from the already sandy, porous soil; they are destroying the plant diversity of the region, and very importantly, the raking eliminates the fuel for the controlled fires needed for good forest management."

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**BILL VERDUIN MADE HONORARY LIFE MEMBER ..... Aline Hansens**

The following election was unanimously approved at the Annual Meeting:

In behalf of the Honors Committee it is my distinct pleasure to present a name for Honorary Life Membership in the Western Carolina Botanical Club.

This is a person whose knowledge, enthusiasm, enjoyment and love of nature have endeared him to the Club and made him a valuable asset. .

In his calm, easy going manner and twinkle of humor, his leadership has led us successfully through these past three years. And when he expected to do only two "miles" a little urging pushed him that extra "mile", somewhat against his better judgment, but for the good of the Club.

If you have ever traveled with him on field trips you remember his contagious enthusiasm for the plants and waterfalls, as well as his insatiable desire for ice cream, especially chocolate!

The Honors Committee is delighted, at this time, to give recognition to Bill Verduin and bestow on him Honorary Life Membership in the Western Carolina Botanical Club and we are also recognizing Bill's wife, Evelyn, whose cooperation and loyal support should never be underestimated in the success of Bill's ventures.

#### **THE NC NATURAL HERITAGE PROGRAM FOR HENDERSON COUNTY**

At the WCBC Annual Meeting, Anne Ulinski reminded us that several years ago Chuck Roe, Head of the NC Natural Heritage Program, told WCBC members about this program. Recently he was back in town, meeting with a broadly based group of people, all interested in the establishment of a Natural Heritage Program in Henderson County. This meeting was initiated by the League of Women Voters and an anonymous donor who has pledged to match dollar for dollar the first \$5000 donated to the project. It is estimated that \$20,000 will be needed; the goal is to raise this amount by Earth Day 1991. The Community Foundation will act as banker so donations will be tax-deductible.

After the \$20,000 is raised, the Natural Heritage people in Raleigh will contract with a research biologist who will come here to begin the inventory of our area, called the Blue Ridge Escarpment. The survey will cover two growing seasons and emphasize plants. A tentative goal for completion is the spring of 1993. Data will be published as an "Atlas" of the unique natural areas of the county. This very detailed report will assist public and private agencies in safeguarding important ecological resources as they plan development projects and make regulatory and land management decisions.

The success of the program will depend in large part on what resource people are available to assist the research biologist doing the survey. If you need more information or are interested in making contributions please see Tom Hallowell or Anne Ulinski.

Donations may be made directly to the Community Foundation of Henderson County, PO Box 2131, Hendersonville, NC 28793. Indicate on the face of the check that the donation is for the Natural Heritage Inventory.



For this report I thought we might first recall the scope of the Club program this past year. The statistics I present will cover Feb. 1 to Dec. 15, 1990.

We programmed 59 events and 4 of these were cancelled at the time of the trip. Eleven meetings were indoor programs and the other 44 were field trips. Perhaps the 2 most valuable field trips were the indoor-outdoor sessions on plant families where a splendid slide show and lecture by Dick Smith was followed by actual field study of representative species. Another outstanding feature of our program was the 2 overnight jaunts to the Carolina Swamps and the Great Smoky Mountains--exciting adventure and marvelous botany on both trips.

Now a few remarks on the work of the recorder and his committee. Our revised system of data on field trips includes a Profile of the area, a Trip Report listing the date, leaders, attendance and salient facts about the day, the plants, etc. and List of Flowering Plants. We have much data in the files. In 1990 we added 34 Trip Profiles, 41 Field Trip Reports and 26 Lists of Flowers. Botanical observations on other plants are included in the Trip Reports.

We have xeroxed some 90 pages of records which will be studied by the committee to further refine our system. A few copies of this report can be purchased for \$5.00 each.

What good is all of this? We now have better planning data for our Program Committee and can make previous Profiles, Trip Reports and Lists available to trip leaders. We can also supply information to Club Members for the cost of duplicating, providing the demand does not become too great.

Among the membership of our club there is great variation in knowledge and interest in plants. However, most of our members have an interest in flowers in bloom, especially spring flowers. Consequently we have more field trips and compile most extensive and accurate lists of flowers in the spring. Our accumulated data emphasizes flowering plants. However, some of our members have interest in mosses, liverworts, lichens, fungi, ferns, etc. Our ability to list these groups, except for ferns is very limited. Hopefully, the knowledgeable person among us will give the recorder written notes on these groups that can be incorporated into our club records.

A field trip should be much more than a mere compilation of lists but a communion with nature where we recognize the habitat/environment/community (use whatever word suits your fancy) where each species is found. When you note which plants are missing from a community you see, then you are beginning to become an expert. Don't hesitate to share your observations and your questions. Sooner or later you'll find someone with the answer or that science has no answer yet to your question.

The Recorders Committee consists of Erika Parmi, Laverne and Bud Pearson, Grace Rice, Bessie Sinish (ex officio), Anne Ulinski, and Bill Verduin and Elton Hansens, Chr. On each field trip one of the above will record; occasionally another WCBC member will be recorder. All hikers are asked to help record. Recording in the field is fun and challenging. We need more people who will assist with recording. Might I suggest that you can have much fun by being your own recorder.



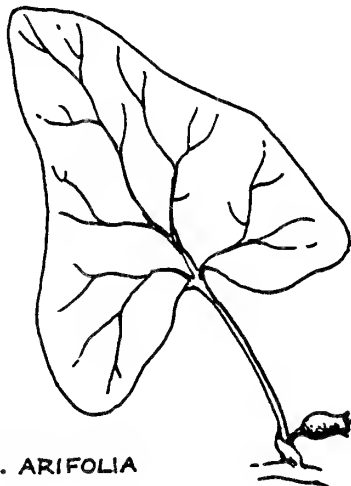
# LOOK AGAIN !

Although not even distantly related to the true ginger of the tropics, the roots of our Wild Ginger, Asarum canadense, have a surprisingly similar flavor and tang.

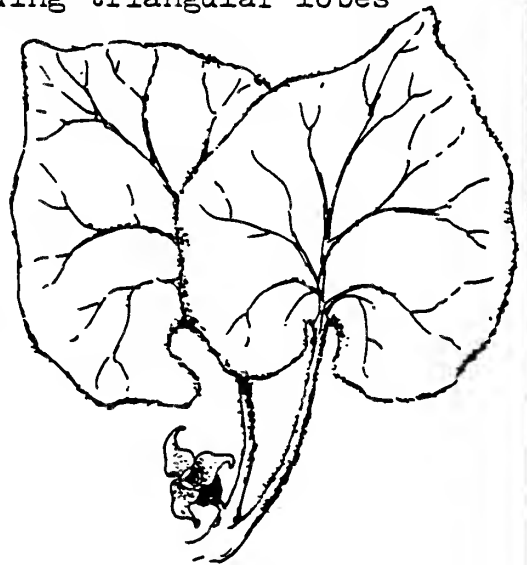
Each spring this plant puts out a pair of large downy leaves, and a solitary reddish or purplish brown flower near ground level. The flower is actually a fleshy calyx (there are no petals), bell-shaped with three spreading triangular lobes which may vary greatly in length.

Another group of plants popularly known as Wild Ginger but endemic to the Southeast possesses a different set of characters; some authors have placed these in the genus Hexastylis and have given them the alternative common name of Heartleaf. They have smooth evergreen foliage (sometimes variegated), a single leaf being formed each year to join the persistent older ones.

The earliest of these to bloom is H. arifolia, in which the leaves are triangular. The little flowers, which are greenish brown and flask-shaped, have given it the colloquial name of Little Brown Jugs.



H. ARIFOLIA



A. CANADENSE

This is followed in our area by three species with more rounded leaves and larger flowers that vary from cylindric to urn-shaped. The calyx lobes are very short in H. virginica, longer in H. heterophylla. H. shuttleworthii is made conspicuous by its big flowers, which usually exceed an inch in length.

*Dick Smith*





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S H O R T I A

Spring 1991

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A quarterly publication of the Western Carolina Botanical Club

Editor: Dorothy Rathmann

Distribution: Frances Gadd

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Bud Pearson, Editor  
2514 Kanuga Road  
Hendersonville, NC 28739

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BOTANICAL  
GARDEN

**SHORTIA**

c/o Frances Gadd  
218 Pheasant Run  
Hendersonville, NC 28739

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**FIRST CLASS**

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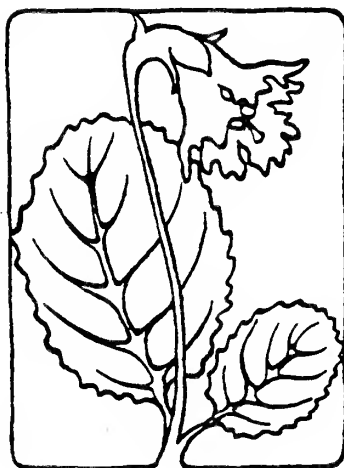


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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB

SUMMER 1991



BUD PEARSON, EDITOR



As spring flows into summer, of what have you been most aware?

To me, form, color, and texture play a dominant part in the marvels of the unfolding and the development of all nature. In my garden, I became aware that it is possible to recognize the different species of ferns by the way the fronds unfold.

Have you observed this? For several years I have been watching the development of Jack-in-the-pulpits. Many times we only see a plant in its maturity and miss the beauty of its development. In the fall, we recognize trees by the color of their leaves. Can you do the same in the spring? Try it as our field trips take us to the higher mountains where late spring still is arriving. Look at the immature oak leaves in their beautiful colors, and note the shades of green in the unfolding of the prayer-like buds of the tulip tree.

To me, form, color, and texture play an important part in the marvels of nature. As we approach summer, concentrate on the changes in form, color and texture in all of nature which give pleasure and satisfaction to our being.

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This issue of Shortia introduces our new Editor, Bud Pearson. Bud has been a member of the Botanical Club for six years. His curiosity, interest, enthusiasm and awareness of the world of nature about him is apparent to those of us who have walked with him on our field trips. These very qualities can serve each one of us and inspire us to learn more and, furthermore, to share that information through the pages of Shortia.

With awareness, curiosity and learning in association with others comes knowledge, "Let knowledge grow from more to more".

Bessie L. Sinish, President

NOTICE OF PROGRAM CHANGE:

The June 28, 1991 field trip planned for Mt. Mitchell has been changed. The new destination will be a field trip to Roan Mountain. The date and meeting place is unchanged.

ROSTER CHANGES AND CORRECTIONS:

To be added to 1991 roster:

Appelgate, Esther  
511 Timberlane Drive  
Etowah, NC 28729  
Phone 891 3052

Isley, Susan Lee  
36 Montrose Ave.  
Asheville, NC 28804  
Phone (704) 645 5758

Murray, Linwood & Mary  
6 Cherry Lane  
Asheville, NC 28804  
Phone (704) 253 5900

Address change:

Prentice, Don & Alta Mae  
303 Wesley Drive  
Givens Estate  
Asheville, NC 28803



In the first four months of 1991 we enjoyed 9 field trips; average attendance was 19 in this rainy spring. Of the scheduled trips, 4 suffered from heavy rain, 2 were cancelled and 2 were held on scheduled "rain dates". The entire program was instructive and enjoyable. The Smokies overnight was again special. April 17 to 19 started out rainy but turned beautiful and flowers were at or near their peak at Cosby Nature Trail, Little River Trail, Little River Road, Chestnut Top Trail, the Quiet Walk, Cades Cove and the Chimneys Nature Trail. That is a FULL schedule.

In the Schedule of Field Trips for Spring 1991 the Program Committee innovated "rain dates" for two Friday trips they judged would be special. Both Friday trips were rained out and the Mondays, April 1 and 29 were super days in the field.

On April 1 Dick Smith selected the Oconee Station Creek trail and waterfalls for study of SC wildflowers. Thirty-eight spring flowers were in bloom ranging from the remnants of many bloodroot and wind flowers to pawpaw trees (Asimina triloba) which were about to bloom. The waterfalls were an important part of the trip. Everyone hoped this location would become a frequent study area, perhaps alternating with the Clemson Forest at Lake Issaqueena.

The second "rain date" trip was to Bull Gap on April 29. Ivan Kuster and Bill Verduin led us to 38 species of flowers including a spectacular display of dwarf larkspur (Delphinium tricornis) and large white trillium (Trillium grandiflorum). This area so captivated the hikers that four of their number took friends to view the area later in the week. Also on this hike we saw an abundance of tiny yellow flower on Corydalis flavula. This plant is recorded by Radford, Ahles and Bell as occurring locally in the mountains and piedmont. The plant was present in masses here and I have a feeling that now that we know it, we will be seeing it elsewhere.

Violets are among the most prized of flowers and I dare say that all of us look forward to seeing them each spring. The first ones we see are usually yellow but soon white and blue ones appear. Most violets bloom profusely and propagate easily. This year we saw the first violets in mid-March and by the end of April we had identified 18 species. However, violets are difficult to identify to species. We could easily by-pass some species or give them incorrect names. Most of us have too little knowledge to recognize their subtle differences nor do we recognize the hybrids between species. Even the experts have great trouble with violets

In the recent Guide to the Vascular Plants of the Blue Ridge, B. Eugene Wofford includes Viola palmata var. sororia, V. papilionacea, and V. papilionacea priceana (confederate violet) under the name Viola sororia and adds "This is perhaps the most common and variable violet; probably hybridizing with all other stemless blues." Since the experts have great trouble identifying many of the violets and they hybridize so easily, perhaps we would be wise not to struggle too hard for a name but enjoy all the violets for their variety and beauty.



### PHYLLOTAXIS AND THE HELIX

(Phyllotaxis: The system or order of leaf arrangement on the stem.) In a paper presented to SHORTIA by member Ralph Raymond, he quotes "The Elements of Botany", by Asa Gray that in turn observes the consistency of the spiral arrangement of leaves in the same specie. Gray states that the arrangement of leaves is said to be a spiral because, if we draw a line from the insertion of one leaf to that of the next, and so on, this line will wind spirally around the stem, and in the same species will always bear the same number of leaves for each turn around the stem. Any two successive leaves will be separated from each other by an equal portion of the circumference of the stem. The distance in height between the leaves may vary greatly, but the distance measured around the circumference will be uniformly the same for any given specie.

Gray explained that opposite leaved plants are in reality plants with their leaves in whorls of two and all whorled leaved plants are an exception to the system.

The article proceeds to demonstrate the numerical relationship of leaf placement. The two-ranked leaf arrangement, where the second leaf stands exactly on the opposite side of the stem and the third leaf is opposite the second and directly above the first. This is the simplest of all arrangements and occurs in all grasses and Indian Corn, also Basswood, according to Gray. The phyllotaxis for the two-ranked arrangement is represented by the fraction  $1/2$ ; the numerator representing the number of times the spiral makes around the stem before it meets a leaf standing directly above the first, or starting leaf. The denominator represents the number of leaves in the path of the spiral, with the starting leaf being counted as the first.

The three-ranked arrangement places the second leaf a third of the way around the stem from the first leaf and the third leaf would be a third of the way around the stem from the second. The fourth leaf, travelling up the stem, would be above the first leaf, and so on. The three-ranked would then be represented by the fraction  $1/3$ . These include all the sedges and white hellebore.

The next series is five ranked leaves represented by the fraction  $2/5$ . In this series, a spiral line starting with any leaf and passing upward from leaf to leaf will pass twice around the stem before reaching a leaf directly above the starting leaf.

The above two, three and five ranked arrangements have been expressed by a series of fractions;  $1/2$ ,  $1/3$  and  $2/5$ . Next would be the eighth-ranked,  $3/8$ , which is found in common plantain and holly. Next would be the thirteenth-ranked,  $5/13$ , such as pussy willow. Next higher progression would be  $8/21$ , then  $13/34$  and so on. These higher phyllotaxis designations are found, for example, in cones of the pine family and in the pineapple.

The phyllotaxis designations are  $1/2$ ,  $1/3$ ,  $2/5$ ,  $3/8$ ,  $5/13$ ,  $8/21$  and  $13/34$ . Note that both the numerator and the denominator of each fraction is the sum of the two preceding numbers.

In his paper, Mr. Raymond wonders whether Asa Gray was the first to consider phyllotaxis and the orderly series of fractions that it employs. The quotations are from Gray's book published in 1887. The denominators in Gray's fractions coincide with a series of numbers known as the "Fibonacci Series", named for mathematician Leonardo Fibonacci, who died in 1240. Each number in the series is the sum of the two preceding numbers; 1, 1, 2, 3, 5, 8, 13, 21, 34, etc. The ratios of these numbers occur in other fields of science, architecture and art.

Mr. Raymond also draws attention to the similarity of the spiral arrangement of phyllotaxis and the helix formed by DNA.

We thank Mr. Raymond for his scholarly contribution. In its entirety it was a bit too long for this publication. Those who would like to study the complete paper are invited to borrow it from the editor.





## FROM THE PRIMEVAL FOREST

The Horsetail and Scouring Rush were identified as unique because they are remnants of the primeval forests. They are also unique because of their jointed stems. Whorls of small scale like leaves form a ring around the stems and seemed to be clasping the next segment of the stem. The segments can be pulled apart much like the sections of a jointed fishing rod.

These plants are of genus Equisetum in the phylum Pteridophytes, which includes the True Ferns and related Club Mosses. The Pteridophytes were the dominant plant life, forming the swamp forests that covered most of what is now the Eastern United States, during the late Paleozoic Era, about 200 million years ago. The tree-like species died out almost entirely with the onset of the Spermatophytes, which were much better suited for land living. In their place we have the remnants of those huge plants as the herbaceous Club Mosses, Creeping Pines, Horsetails and Scouring Rushes. They rarely exceed a few feet in height, a contrast to the forest trees that were their ancestors in the Paleozoic Swamp which grew to heights of 60 and 100 feet. These were the plant life from which coal was made. Coal deposits have preserved the fossil shapes of these early species.

The Horsetails and Scouring Rushes; family equisetacea, genus equisetum, are practically leafless, with the green stems providing for food production. They grow in moist and wooded environment as their Fern allies, but have also adapted to open, dry areas. They are often found rooted in the cinder and ashes along railroad embankments. In some places they are called Railroad Fern.

The Scouring Rush (Equisetum laevigatum) gets its name from the siliceous material in its stalk that give them the gritty characteristic found valuable for scouring. They reproduce by spore production contained in cones at the tip of their stems. This plant forms a single stalk two to three feet high.

The Common Horsetail (Equisetum arvense) has branches of green, which are sterile, and of tan, which are reproductive. These are tipped with a single yellow cone which releases spores. Horsetails are one of the first signs of spring, pushing their way up through the grasses well in advance of the flowering plants. These attractive little plants are from six to twelve inches in height.

The text used for reference did not actually identify the family name, equistacea, and another source identified the Scouring Rush species as hyemale. A basic research principal; when conflicting information causes doubt, choose the reference printed on the best paper. The following was "stumbled upon" while looking for the above information.

EARLY PLANT LIFE: Life on earth is thought to have began about two billion years or more ago, in some simple form. The planet was probably more than two billion years old by then. There is no fossil evidence. The estimation of the date that life began on the planet is an educated guess based on the observable progress of the development of life. The first fossil evidence of plants that can be recognized are about five hundred million years old. These are of ancient seaweed that was in the ocean during the Cambrian period, the earliest part of the paleozoic era.

The first land plants lived during the Silurian period (360 million years ago) of the paleozoic era; fossils from Silurian rocks indicate that a land flora was well established in some parts of the world. The Silurian period plants possessed water-conducting cells in their stems, unnecessary in seaweed, and were propagated by producing spores.

Evolution carried the development along. By the end of the next period, the Devonian period (330 million years ago), ferns had appeared and the first gymnosperms, or cone-bearing seed plants appeared. There were, as yet, no flowering plants; these did not appear until the end of the Jurassic period of the Mesozoic era (170 million years ago). When they did appear they quickly dominated all other plant forms. This was followed by the founding of botanical clubs.



## MEMBERS HONORED FOR JACKSON PARK WETLAND EFFORTS

An article in the March 24, 1991 local paper, The Times News, reported recognition of Millie Blaha and Anne Ulinski for their efforts in having the Jackson Park Wetlands listed on the North Carolina Registry of Natural Heritage Areas. The state praised the work done by Anne and Millie. Charles Roe, then head of the North Carolina Natural Heritage Program, said, "We have rarely received such detail and great amount of information in support for a nomination, and we compliment your work."

Anne and Millie are well known to members of the Western Carolina Botanical Club for their contributions to the club. Millie has served as president of the club and is recognized as a "Knowledgeable One" who members gather about on the trail during field trips. Anne, also knowledgeable, while serving as recorder for the club, has established the foundation for field trip recording which provides information for the essential function of program planning. No doubt, Anne and Millie worked at Jackson Park with the same expertise and diligence that other members have observed on field trips.

Anne says that recent publicized personnel changes should not effect the status of the park wetlands registration and that there has been some assurance that grants will be allowed as expected.

"ROOT ROT" INFECTS PINES ALONG U.S.276. For those of you who may have wondered about the reason for cutting the trees in the Davidson River Campground and along U.S.276, the U.S. Forest service says the white pines are infected with root rot. They are being cut to prevent the hazard of their falling, possibly on campsites. The disease spreads through the root system.

Art Rowe, of the U.S. Forest Service, said they plan to replace the pines with more vegetation such as rhododendron, hemlocks and autumn olive.

## CHECKING THE PHYLLOTAXIS

A flowering plant, called Dame's Rocket, was pointed out by a "Knowledgeable One". I thought it was phlox. However, it is a member of the Mustard family (Cruciferae). Page 84, in Peterson's gave it three lines, "DAME'S ROCKET, Alien - (Hesperis matronalis). Pink, purple or white. Leaves large, toothed, alternate. See text and color plate, p.226". On page 226, they added that the species was an escape from the garden that resembles phlox, but has 4 petals, not 5. (Matronalis suggests the plant was named for a female with status, not a botanist named "Dame".)

Were the leaves alternate? It didn't say opposite and alternate, just alternate. With new knowledge of Gray's theory of phyllotaxis in mind, I counted the leaves on the stem. Starting at the lowest leaf I counted, eight leaves before I reached the ninth which was directly above the first leaf and I had circled the stem three times. Then the Dame's Rocket must have a phyllotaxis of  $3/8$ ! Thinking the one I counted could be a specimen of the well known genre, "the anomaly", I turned to another plant in the rather large cluster and counted the same number of leaves and turns around the stem. The phyllotaxis of the Dame's Rocket must be  $3/8$ . Check it out.

HELP MAKE SHORTIA A BETTER PUBLICATION. All members are invited to contribute to Shortia. If you have an article that you think would be of interest to other members, send it to the editor. If there is a subject that particularly interests you, do a little research, write it up, and send it to the editor. The subject that interests you will likely be of interest to many other members. The sharing of knowledge is one of the most important elements of the botanical club. We all appreciate the generosity of those knowledgeable ones who share so freely and patiently with those of us who have short memories. But you don't need to be an expert to write about a specimen or a natural phenomena. Researching a subject can be very entertaining.

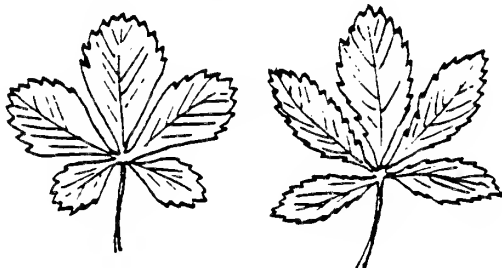


# LOOK AGAIN !

The Rose family is a difficult one for taxonomists, and includes several genera in which the "splitters" have established hundreds of (in their judgment, at least) species; the hawthorns and the brambles are notorious examples.

The genus Potentilla - the Cinquefoils - is another, but it is nevertheless a good choice for practicing wildflower identification in the Southern Appalachians, where there are only a handful of species, most of them clearly different from one another.

The only exceptions happen to be the two that are the most numerous and are encountered repeatedly in old fields, on dry banks, and along the edges of sunny woodland trails. These are often confused, and sometimes even mislabeled in field guides. They are Potentilla canadensis, or dwarf cinquefoil, and P. simplex, usually referred to as common cinquefoil. Both have long trailing stems and five-parted palmate leaves, with small yellow flowers arising from the axils. They can most easily be separated on the basis of their leaflets, which in P. canadensis are more broadly rounded than in P. simplex, where they taper gradually toward the apex. Most significant, however, is the fact that the teeth of P. canadensis are confined to the upper half of each leaflet and seldom number more than five on each side, while P. simplex has more and they extend along virtually the whole margin.



The name "cinquefoil" denotes five leaflets, but there is only one other distinct species in our area that follows this rule. It is Potentilla argentea, or "silvery" cinquefoil, so-called because the undersides of its narrow, revolute leaflets are covered with silky white hairs.



*P. tridentata*

Potentilla recta, or rough-fruited cinquefoil, an erect plant with large, handsome sulfur-yellow flowers, has leaves which usually are seven- or nine-parted. Going in the other direction we find P. norvegica and P. tridentata with only three leaflets. The latter is the white-flowered "wine-leaved" cinquefoil, a boreal species restricted in the southern United States to high balds and ridges.

*Dick Smith*





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Distribution: Frances Gadd

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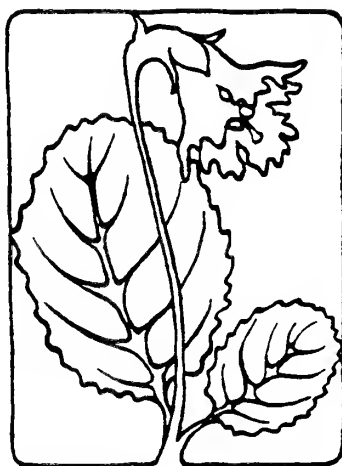


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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB

AUTUMN 1991



BUD PEARSON, Editor



## LEARNING THE FLOWERS

Can I tell the pleasure can I say anything  
That will tell you something of it  
The hard work the forgotten time  
The fulfillment the plain pleasure of knowing?

On any and many a spring day going out  
Into the forest the field spending much sun  
Much wind finding so many blooming colors  
Of things bringing them back

Then sitting in the darkening room with the light  
The lens the book and looking so back and forth  
And touching and seeing the shapes and the feels  
The colors the numbers of things on the table

The keys that unlock the descriptions that tell  
The names that are ringing the music my tongue  
Says them softly I write them all down and now  
Every color of flower has its name

The next time then walking abroad in the sun  
I am not alone though no person is near  
For friends I can speak to and call them by name  
Are growing and touching my feet and my eyes.

Norman H. Russell

---

## NEW MEMBERS

Ruth Blanchard  
41 Dogwood Lane  
Brevard, NC 28712

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Hendersonville, NC 28739

Mrs. Donald (Kathy) McNeil  
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Waynesville, NC 28786  
also  
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San Francisco, CA 92109

Charles & Nancy Meister  
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Hendersonville, NC 28739

Thea Seifke  
239 Purple Finch  
Brevard, NC 28712

Virginia B. Tener  
41 Grouse Lane  
Brevard, Nc 28712



FROM THE PRESIDENT

A message

Bessie Sinish

The summer of 1991!

If you were aware of the range of the different shades of green, the deeper blues, pinks and yellows; the beauty and variety of colorful mushrooms springing up out of the deep dark earth; the misty quality of the world surrounding you - your life indeed was enriched by all this beauty - a gift of nature.

Nature, on the whole, has been kind to us living here on earth. Where-ever she has done damage - minimal or great - she has healed or is in the process of healing herself. One has only to see the revitalization of the volcanic torn area of Mt. St. Helens, the fire destroyed areas of Yosemite or coal fields of Pennsylvania to see her remarkable powers of self-healing.

An article in the summer edition of the North Carolina Conservancy gives information concerning our area: "Two hundred years ago, the North Carolina landscape was shaped and formed by natural processes. Fire raced across the land, deterred only by rivers, wetlands, and lakes. Rivers flowed freely, periodically flooding bottomland forests. Kudzu and Japanese honeysuckle did not grow in North Carolina. Two hundred years ago, natural lands were unfragmented by human use. Today, the natural processes that kept the native plant communities healthy have been removed. Exotic species that compete with our native plants for space, nutrients and pollinators have been introduced. North Carolina natives have inherited the good and the bad. The beautiful facets of this state's natural beauty is the result of, or in spite of the stewardship of our ancestors."

Recent research stresses the following conclusions:

1. Introduced species which are added to a natural ecological balance displace or at least change the natural ecosystem. When this occurs, the natives lose their natural habitat causing new habitats which lack the control factors and the exotic plants spread and begin to crowd out the native plants.

2. Introduced trees and bushes grow a few years but seldom reproduce. From the American Horticulturist Magazine: "Native trees and shrubs can be beautiful as any hybrid and will thrive in landscapes where imports languish."

3. With all the studies and experiments being conducted with seeds, in micropropagation, in growing "snippets" of plants in the test tubes, perhaps the serious problem will be reversed.

What can man do to preserve the natural beauty, in being the stewards for the future generation? We can;

1. Support the continuing ecological research, and
2. Observe the conditions under which native plants grow best, - one objective of field trips.

3. Be aware of organizations involved in conservation and become involved.

4. Visit arboretums and specialized gardens such as the fern garden in Atlanta.

5. In planning our own gardens and in home landscaping, use native plants. Learn their habitats, - this will include their range. And SEEK GUIDANCE. Native plants are already acclimated and grow without pampering.

May we all become stewards of our heritage.



Study of our WCBC plant lists is always interesting. How many species do we see in 3 months of field trips? How diverse are they? How many families and genera of plants are represented? These and other questions can be asked.

This quarter I examined our plant lists for 12 field trips as follows: 5/3 Holmes State Forest; 5/6 Jackson Park; 5/10 Pilot Mtn.; 5/13 Green Cove; 5/17 Big Laurel Creek; 5/24 Sugarloaf Mtn.; 5/27 Big Butt; 5/31 Buck Spring Nature Trail; 6/14 Soco Gap to Heintooga; 6/28 Mount Mitchell; 7/12 Bee Tree Gap; and 7/26 Bear Pen Gap/Haywood Gap.

The number of species ranged from 19 spring species on May 6 to 80 species of summer and early fall flowers on July 26. A composite list of the families, genera and species numbered 277 species. These species belong to 162 genera in 54 families--a very diverse flora, indeed.

During this quarter we also enjoyed a picnic at Holmes State Forest, an exciting trip to the University Botanical Gardens at Asheville, and cancelled the Carter's Creek Falls trip --- RAIN.

The Fern Walk at Holmes State Forest on 7/19 was special. Barbara Hallowell gave a superior lecture-demonstration of fern morphology and life history and showed examples of the more distinctive and common ferns. On the trail we tried identifying the 12 local species using the Hallowell "Fern Finder".

FIELD TRIP TIDBITS. At Holmes Forest on 5/3 yellow lady's slipper (Cypripedium calceolus) was found at 3 sites. On 5/10 on Pilot Mountain, the greatest display of pink shell azalea (Rhododendron vaseyi) in 5 years was waning. Even the slopes in Deep Gap were covered with pink shells.

Surprise! 'Twas a foggy, grey morning on a steep part of the trail--horses suddenly came charging down the trail, members flew in all directions and the incident was suddenly over, safely. Frank Bell's, 5/13.

Sleepy catchfly (Silene antirrhina) was found on 5/24 near Sugarloaf Mtn. The plant is often not noticed because of its small insignificant flowers. Big Butt, 5/27. Blue bead lily (Clintonia borealis) was the highlight of the trip. Four days later Catawba rhododendron, wood betony and bluets were abundant on the Buck Spring Lodge Nature Trail. Flame azalea and mountain laurel were spectacular at Plott Balsam on 6/14. By 7/12 Bee Tree Gap on the Parkway was a "riot of color"--masses of phlox and many other species.

On 7/26 about a mile of steady climbing from Haywood Gap through evergreen forest brought one to an open meadow covered with great quantities of fly poison (Amianthemum muscaetoxicum) and many other flowers plus luscious blueberries. In the same general area we saw four other members of the Liliaceae---broad-leaved bunch flower (Melanthium hybridum), false hellebore (Veratrum viride), and feather fleece (Stenanthium gramineum) and bunch flower (Melanthium virginicum--an unusual opportunity to study the four in full bloom.





When people flock to the mountains to enjoy fall foliage, who thinks of ferns, especially ferns in autumn color? Yet cinnamon ferns sport one of autumn's brightest yellows--and it's common, too!

The dampish glens where these handsome ferns can stretch to five feet tall glow with sunny gold through several autumn weeks, challenging even the yellows of maples and tuliptrees. Then a rich, coppery tan creeps over the yellow, and finally, their annual effort expended, the leaves (fronds) turn brown and disintegrate into the leafy litter of the forest floor.

Why does this fern bear the odd name of "cinnamon?" When its fiddleheads and stalks push up in spring, a soft cinnamon-colored wool encloses them. That's reason enough, but there's a much better one.

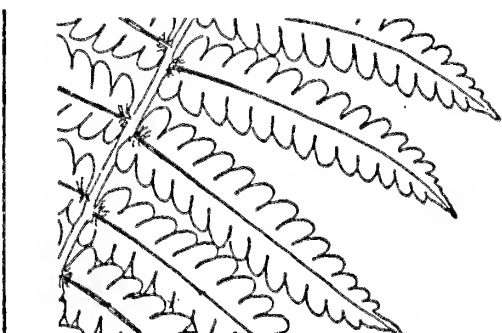
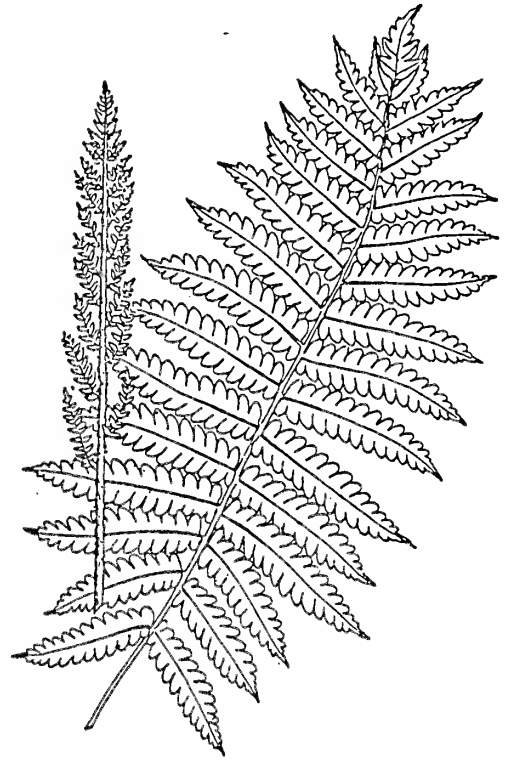
The fern's fast-growing, spore-bearing stalks, laden with dense clusters of dark green spore cases, grow straight up in the center of a crown of graceful, slower-growing, leaf stalks. When ripe, the cases burst open, scattering dark green spores. The empty cases turn a superb, intense cinnamon color--and there's the name!

So, if you see a springtime crown of lush green fronds with cinnamon colored stalks in the center, you know it's cinnamon fern.... But within just a few days, the fertile stalks wither and collapse to the ground or lie entangled in leaf stalks, difficult to find to assure identification. If you can't find them, what can you do to be sure it's really cinnamon fern?

Easy! Just turn the frond over & look closely at where the leaflets join the main stalk. Is a tuft of wool there?

If so, it's cinnamon fern. That tuft is a sure way to tell it from its cousin, the interrupted fern. Sterile fronds of each can look a lot alike. The tuft often disappears by the time the fronds turn yellow--but rest assured, those big ferny fellows that brighten our mountain forest floors with yellow have got to be cinnamon ferns!

Enjoy them!





## SEDGES, GRASSES, AND RUSHES

We don't give much time to grasses, sedges, and rushes on field trips. They are always present but there is little about them to attract much attention. Often they seem to provide an ignored background for other more attractive species. The distinction between these three categories are usually unimportant to the average person, troublesome to the biologists, and a scientific puzzlement for many professional botanist.

All three groups of plants generally have long, narrow, "grasslike" leaves; all three have tiny, nonshowy flowers, so that differences are not readily detected with the naked eye; and most all do best in wet or at least damp places. They are different enough, however, to be classified into separate families, with the rushes considered to be more closely related to members of the lily family than to either sedges or grasses.

Some general characteristics can be useful clues in distinguishing the three groups. The stem of sedges are often triangular and almost always solid, whereas the stems of grasses are usually round and hollow, and the stems of rushes are mostly round and solid.

The leaves of sedges are normally flat and arranged in three distinct rows on the stem. The leaves of grasses are normally flat or curved under the edges and arranged on two sides (two-ranked) of the stem. Rush leaves may be flat or cylindrical and hollow, and as in grasses, they are arranged along two sides of the stem.

In the rush family the male parts of the flowers, which produce pollen, and the female parts, which produce the eggs and ultimately the seeds, are surrounded by six tiny, usually greenish or brownish structures that botanists consider to be the equivalent to petals and sepals. A similar pattern is found in most members of the lily family, except that the petals and sepals are large and colorful, forming flowers attractive to pollinating insects. Rushes are pollinated by the wind, and their small, drab flowers are therefore no disadvantage. Their fruits (the developed ovaries and the seeds they contain) consist of small, dry capsules encasing many tiny seeds.

Grasses and sedges are also wind pollinated and have similarly drab flowers, usually greenish or brownish. But the male and female parts are not surrounded by six structures. In grasses, a pair of tiny structures usually enclose the male and female flower parts, at least for a while; in sedges, there is only a single accompanying structure. The seeds are born singly and never grouped inside capsules. In sedges, the developed ovary provides a thin coat over the seed and can be rubbed off, while grasses, the fruit (called a grain) consists of a seed fused with the surrounding ovary.

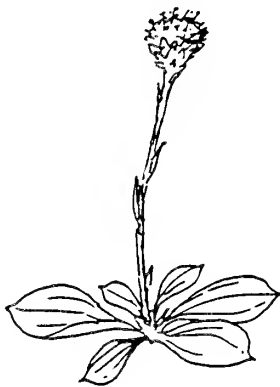
There are some 10,000 species of grasses (f. Gramineae) in the world, 4000 sedges (f. Cyperaceae) and 400 rushes (f. Juncaceae). These plants are worthy of more attention, since, in usefulness to man, grasses seem the most important family of the plant kingdom. With over 1,000 species in the United States, knowing the grasses might be a formidable undertaking.



# LOOK AGAIN !

In early spring, when showy blossoms are scarce, inconspicuous plants such as the rayless composites receive much more attention than they would later in the year.

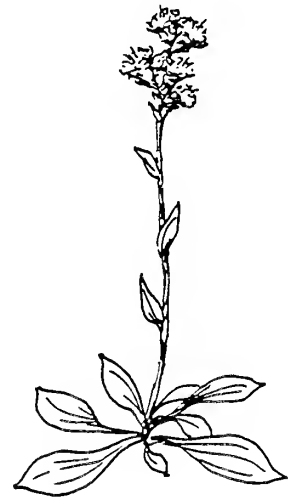
Two common examples of this are to be found in the genus Antennaria. Solitary Pussytoes (A. solitaria) is unique in having but a single head of whitish flowers, unlike Plantain-leaved Pussytoes (A. plantaginifolia), which bears several in a compact cyme. Both species spread by means of stolons.



A. SOLITARIA



G. PURPUREUM



A. PLANTAGINIFOLIA

The season is shared by Purple Everlasting. Gnaphalium purpureum; in this genus the principal leaves occur along the stem instead of in a basal rosette. The heads are distributed in a narrow inflorescence and the involucre bracts have a reddish purple tinge.

Our only other species, G. obtusifolium, does not come into flower until late summer. It is larger than the others, has off-white bracts, and because it is often dried for fragrant winter bouquets it is known as Sweet Everlasting.

*Dick Smith*





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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB

WINTER 1991 - 92



BUD PEARSON, Editor



As another season approaches, I look forward to seeing the world out there with a new awareness. The views are open. The sky serves as a background for the trees silhouetted against it. This is the time to see new growth of plants, annuals and biennials which germinate prior to exposure to low temperatures prior to the warmer weather of spring and summer when they flower. Examples of such are in the form of rosettes, runners and creeping vines. The green mosses, lichens and fungi of different colors are more noticeable. It is the time to notice the grayish-green to white bark of the Sycamore, and the bark of our various Pines as well as the bark of other species. It is, also, the time when we see the magnificent sunrises and sunsets of orange, yellow, red, sometime with mauve and delicate green. The vitality of our earth expresses itself in every season.

\* \* \*

Please check your schedule as to the meeting places for programs in November through January. January 17th is the meeting when we share, "A nature oriented tid-bit, fact or idea of interest". Do contact Jeanne Smith (704) 885 2530 with your ideas. Come share and learn. With awareness, curiosity, association, and learning, we become more and more aware of the vitality of the earth.

\* \* \*

WE WELCOME NEW MEMBERS:

Ray Cottier, P.O.Box 1172, Flat Rock, NC, 28731 Ph. 696 0765  
Janice R. Honeycutt, P.O.Box 837, Saluda, NC, 28773  
William and Thelma Horne, P.O.Box 39, Balsam, NC, 28707  
Patricia Ryan, 116A Country Club Heights, Tryon, NC, 28782

\* \* \*

"ONE WRITER'S 10 FAVORITE WILDFLOWER AREAS"

A recent issue of "Wildflower", the newsletter of the National Wildflower Research Center featured an article by WCBC member Dick Smith titled as above. The Editor's note explained Richard M. Smith, a noted wildflower author, had been asked to write about his ten favorite wildflower spots. Dick's article pointed out that it would be easier to pick one hundred than just ten.

Members will no doubt be curious and interested to know the ten places Dick named. The first named was the Great Smokey Mountains with particular reference to Cove Hardwood Nature Trail and conifer-clad Clingman's Dome. Next was Colorado's Rocky Mountain National Park.

Number three was Maine's Mount Desert Island National Park.

Fourth, Organ Pipe Cactus National Monument in Arizona.

Fifth, Hoh River Forest in the state of Washington.

Sixth, Everglades National Forest, in Florida.

Seventh, the New Jersey Pine Barrens.

Eighth, Torrey Pines State Preserves north of La Jolla, Cal.

Ninth, the Grass Bay Preserves near Cheboygan, Michigan on the shores of Lake Huron.

Tenth, North Carolina's Green Swamp south west of Wilmington.

All of these locations are described in detail by Dick's book, "Wild Plants of America".

You probably all know, the National Wildflower Research Center was founded by Lady Bird Johnson.



### REMINISCENCES FROM FRANK BELL

I loafed a bit today - I hope gainfully. This morning Calla and I rode Sir Acorns and Deadline in the woods, by clear streams, moss covered rocks, lichen, Christmas ferns, rhododendron green as in summer, bare trees that admitted and filtered the brilliant winter sun, and evergreens that made dark tunnels. The forest was too delightful to hurry through - we walked most of the time and savored the odors and sights and silence.

Then, I flew over Cantrell Creek, Molyneaux Gap, High Pockets, Shining Rock, Looking Glass, Devil's Courthouse, and took that dramatic dive from the commonplace North slope of Whiteside Mountain to the South, where the mountain isn't. Indians say that the Thundergod tore that half away, leaving a concave granite wall where half the mountain should be. We circled over spectacular Whitewater Falls - both of them - and High and Triple Falls on Little River. The beauty was serene and awesome and good. Even the less striking view from our living room gives me a sense of the excellence and vastness of God's creation - which survives, and shall survive, the abuses of what we men choose to call His major creation - ourselves.

---

### KEEP THE LEADER IN SIGHT OR INFORMED

by the Editor

If any one else wrote about this I would probably consider it preaching and inconsistent with the character of the botanical club. But, since I have been at fault, have admitted my error and attempted apology, this may be considered as part of my atonement.

In short, while on a recent field trip, I led a small group off the trail to a place along a stream where we enjoyed our lunch. The problem was that the place I chose was obscure from the main trail. The main body of members passed this spot and assumed my small group had continued along the trail. After lunch I led my contingent back down the trail and to another trail which was to be part of an "after lunch" trip.

The main body of the field trip was inconvenienced by not knowing where my group had gone. They proceeded further along the trail than intended and were confounded by our disappearance on a single trail. We did not intend to include "Hide and Seek" in the days activities. Going off the trail to find a picturesque place to have lunch was not a mistake. NOT INFORMING THE LEADER of my intentions was a mistake.

Thinking about the many field trips conducted by the botanical club and the relatively few "incidents", I do not think that we need any "Rules" for conduct on field trips. Our membership is mature and responsible. It is, however, something of a problem to keep a large group together on the trail when the interests of the individual members is so varied. Identification of a single species with book and glass is an activity in which only a few can participate. Others, naturally want to move on to discover nature on their own. Often the places we visit are worth "looking up" to see, and some want to see more of the vistas than the species. So most groups do get strung out along the trail, and this is certainly all right. We are out there for our personal enjoyment. We all try to conduct ourselves so as not to inconvenience other. This can be accomplished on field trips by keeping the leader in sight or informed.....Bud Pearson



From the Introduction to his book "TRAVELS", 1791:

"This world, as a glorious apartment of the boundless palace of the sovereign Creator, is furnished with an infinite variety of animated scenes, inexpressibly beautiful and pleasing, equally free to the inspection and enjoyment of all his creatures.

Perhaps there is not any part of creation, within the reach of our observations, which exhibits a more glorious display of the Almighty hand, than the vegetable world: such a variety of pleasing scenes, ever changing throughout the seasons, arising from various causes, and assigned each to the purpose and use determined.

William Bartram, (1739-1823)"

William Bartram was the son of John Bartram (1699-1777), a botanist who founded the first botanical garden in America in 1728 on the farm he purchased near Philadelphia. John was commissioned by King George III to collect botanical species in the New World and was a fellow of the Royal Society. John helped Benjamin Franklin found the American Philosophical Society. The senior Bartram was raised as a Quaker and a farmer in Darby, Pa.

Today the Bartram House and Gardens are a city park operated by the John Bartram Association. It is situated along the west bank of the Schuylkill River in the city of Philadelphia. The area surrounding the Bartram Gardens is representative of the most depressing urban decay found in most of our major cities, but the house and gardens are truly worth a visit. One of the oldest trees in the garden is a Yellowwood, *Cladrastis lutea*, which may be a descendent of this species discovered in the hills of Tennessee and Kentucky and brought to William by his friend Andre Michaux, the French plant explorer.

William was born in 1739, the seventh of eleven children. He grew up surrounded by his father's gardens and developed an early interest in nature. He possessed an artistic talent for drawing plants, birds and wildlife. His book "Travels" attests to his literary ability. His book was written from the journals kept while travelling "The East and West Floridas and the Carolinas" from 1773 to 1778. It is, at once, a catalogue of plant life in the area travelled as well as a description of the inhabitants, the geography and animals of the area. Bartram's descriptions are often poetic and his book was appreciated by such literary notables as Samuel Coleridge, William Wordsworth, and Thomas Carlyle.

A North Carolina Unit of the Bartram Trail Society was formed in 1977, (Shortia VII, 4, 1985-86) and continued as North Carolina Bartram Trail Society, Inc. That organization had located some 80 miles of Bartram's original trail through Western North Carolina.

It might be interesting to contact this organization. It would be worth considering a Botanical Club visit to Bartram's trail.





Field Trip to Sugarloaf Mountain on Aug. 16, 1991.

"There's one!" "There's another!" "I see more!" "How beautiful!" "What an interesting flower and how blue!" "I've never seen anything like this before!" "I count 18, look on that next rise. There are many more." "Look here, these are white ones!" These and many other comments were made when 26 of us found a spectacular display of monkshood, (Aconitum uncinatum) in the meadow near the tracking station atop Sugarloaf Mountain.

A few years ago WCBC had found monkshood on Sugarloaf but subsequently it was not found for several years. Then in 1990 when the leaders were scouting for the August Sugarloaf field trip monkshood was found in 2 locations. The actual field trip several days later was rained out.

Aconitum uncinatum grows in rich woods from southern Pennsylvania to Indiana and southward in the mountains. This member of the Ranunculaceae prefers moist areas such as Sugarloaf provides. The flowers are blue, the plants are weak stemmed, and the leaves are deeply 3-5 lobed. The irregular flower has 5 petal-like sepals, the upper one being large and shaped like a helmet. The 2 upper petals are small, spur-shaped bodies raised on long claws and concealed under the helmet; the other petals are reduced or wanting. The seeds and roots of monkshood are poisonous. An additional rare species of Aconitum is also found in the North Carolina mountains (See Radford).

For our Aug. 16 trip we arrived at the base of the mountain about 10:00 a.m. The hikers were divided into 3 groups led by Elton Hansens, Dick Smith, and Millie Blaha. For botanizing we stopped at 4 locations before we passed through the gates and arrived at the summit parking area about noon. Soon each of us settled on our "pet rock" for lunch. By 12:45 we were ready for more botanizing. It was then that we found the monkshood. Our flower list for the trip numbered 72. Such a long list was possible because we moved through a variety of environments and to a higher elevation. Sugarloaf is always a productive trip.

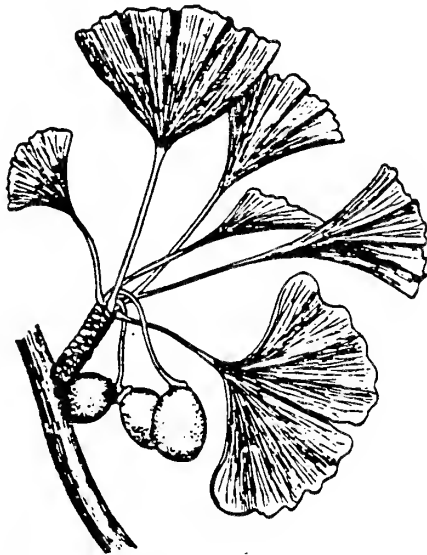
Thirteen field trips were scheduled from Aug. thru Oct. The diverse program included a trip to the NC Arboretum (8/9), a blueberry harvest on the Mountains to Sea Trail (8/23), an insect walk (8/30), a session on fungi (9/13), a picnic (10/4), and a late autumn field trip with emphasis on leaves and fruits (10/25). The other 7 field trips emphasized flowers in bloom. These were to Frying Pan Gap (8/2), Sugarloaf Mtn (8/16), Butter Gap (9/6), Parkway South (9/20), Hogback Mtn (9/27), Whiteside Mtn (10/11) and Big Creek in the Smokies (10/18). The flower lists from these 7 trips were organized into a composite list for August, September, and October. This list included 172 species in 41 families and 103 genera. Similar data for May, June and July of this year (Shortia Vol. 13 No. 3) revealed 277 species in 54 families and 162 genera. Why is the flower list so much shorter for August through October? Do you suppose this is true because we cannot identify many of the fall flowers?



The first Ginkgo tree I remember seeing was called to my attention by my wife. It was in Manhattan and they were planted along the sidewalks in front of our hotel, a few blocks south of the park. That was in the fall of 1977 and the leaves were a bright yellow. I remembered it because of the distinctive fan shaped leaves and the name (ging'ko) has a bit of a lilt. Frank and Calla Bell have a fine specimen of the Ginkgo along the driveway as you approach their house. Some years ago, during a field trip at the Bell's, Dick Smith identified the tree as a primitive form.

While it is a handsome ornamental tree, the fact that it is primitive made it more interesting. Darwin called the Ginkgo "a living fossil". Millions of years ago, back in the time of the dinosaurs, it was widespread around the earth. Fossil leaves have been found in England, Alaska, and islands in the Barents Sea.

Millions of years ago, after plant life came from the sea and began to occupy the land, and following the development of the spore bearing plants, the early seed bearing plants, *spermatophyta*, developed. This phylum is divided into the Naked Seed bearing plants, *Gymnosperms*, and plants that have their seeds developed in the ovary of their flowers, *Angiosperms*. The Ginkgo is one of the early *gymnosperms*.



During the 19th Century, and perhaps before, the Ginkgo was transported to the Western world from China and Japan where it was cultivated in gardens. It was planted along the streets of many Eastern cities as an ornamental. It has no natural habitat today, but survives as a cultivated ornamental plant. It thrives on most moist and fairly fertile soil and is tolerant of the city environment; and is not usually damaged by storms, fungi, or insects.

The staminate and pistillate flowers occur on separate trees. The fruit is not often seen in this country because it is the staminate trees that are usually planted. The fruit, which has a rank smell like the odor of rancid butter, is plum like in appearance and contains large smooth silvery pits, which are considered a delicacy by the Orientals. "Ginkgo" comes

from the Chinese and means "silver fruit" or "white nuts".

The Ginkgo is listed in the index of some books only as the Maidenhair Tree. It got that name because of the similarity of the leaf shape to that of the maidenhair fern's leaf. Its disturbing that someone would take a fine distinctive name like "Ginkgo" and substitute another name already in use.

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YOU ARE REMINDED THAT IT IS ABOUT TIME TO PAY ANNUAL DUES.  
DUES MAY BE PAID AT THE ANNUAL MEETING

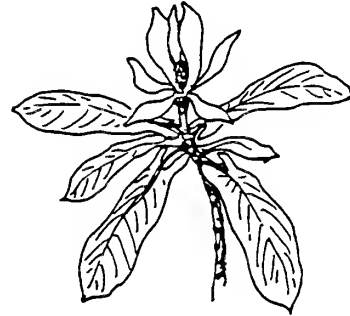
THE EDITOR would like to invite members to submit material or ideas for Shortia. If you aren't equipped to provide "printer ready" copies, you can supply the Editor with ideas, articles, books or bibliography from which to write an article. YOU can make SHORTIA a better publication.



# LOOK AGAIN !

To many, the word "Magnolia" means that splendid white-flowered native evergreen tree that is so typical of the deep South, while others picture the Asiatic hybrid M. soulangeana, smothered in fragrant pink blossoms before the leaves emerge in the spring.

Contrasted with these are several very different Magnolias that inhabit the forests of our southern mountains, all of them deciduous and all blooming during April and May. Mountain Magnolia (M. fraseri) has creamy yellow flowers, and is easily identified by the paired lobes at the base of the leaf blade. (This characteristic is shared by M. macrophylla--which may have leaves a yard long--but this species is not commonly seen in our area.)



M. FRASERI

In M. tripetala, several leaves are clustered just beneath the white, malodorous flowers, which has given it the name of Umbrella Tree. This feature is absent in the Cucumber Tree (M. acuminata), which bears smaller, greenish yellow flowers.



M. TRIPETALA



M. ACUMINATA

Only one other genus of trees in the Magnolia Family occurs in the United States, and this is represented here by the handsome Tulip Tree (Liriodendron tulipifera).

*Dick Smith*





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